

Weather Note

GROUND DAMAGE BY TORNADO

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The tornado which produced the soil damage shown in figure 1 occurred at 8:40 p.m. CST on April 5, 1964. The scene is in a large sloping pasture located 2 mi. northwest of Marion, Miss., or about 7 mi. northeast of Meridian. The tornado was produced in a squall line which moved through this area early at night. The severity of the individual cells necessitated the issuance of local warnings for high winds and hail at 6:00 p.m. CST. Reports were received of scattered areas of hail and high winds as the line passed through this area, but the particular storm discussed here was unreported to us for two days.

An examination of the path of destruction showed that the tornado reached the surface for a total distance of about $\frac{1}{2}$ mi. The initial contact broke off a pine tree 18 in. in diameter about 15 ft. above the ground. As the tornado, apparently still above the surface of the ground, moved toward the northeast from this tree, it pulled the sod up, and exerted such force that huge cracks were forced open in the sod in an area about 10 ft. in diameter. These cracks were all semicircular in shape. The tornado then moved uphill and reached the surface about 50 ft. to

the northeast. The force of the small vortex ripped huge chunks of soil and grass down to a depth of about 8 in. in an area 20 ft. wide and 50 ft. long. Upon first examination, it was thought that this area was ripped up by a tree top, but this was ruled out by the smooth appearance of the bottom of the hole. It appears that the soil was pulled out down to the clay depth which resisted the suction more than the topsoil. Huge chunks of this soil were thrown in all directions around the hole for a distance of about 100 ft. (fig. 1).

The storm then traveled over a small hill in the pasture to the northeast for a distance of about $\frac{1}{4}$ mi. destroying a small, very old barn which was used for hay storage. The debris was scattered in all directions for about 100 ft. There were no injuries, and total property damage is estimated at about \$300.

While this storm was of minor significance, insofar as property damage was concerned, we felt that it was unusual in the type of damage. We had not heard of one ripping the ground up in this manner.

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FIGURE 1.—Photographs of tornado damage to sod and soil in pasture 7 mi. northeast of Meridian, Miss., 8:40 p.m., CST, April 5, 1964.